

Work Order ID 128802

Tuesday, January 27, 2015 7:48:23 AM

128802

Page 1

Item ID: 646.9702

Accept

N900040100

Setup Start *NS1*

Revision ID:

Stop *NS2*

Item Name: Cutter Sub Assembly (U Channel)

Start Date: 1/26/15 Start Qty: 3.00

Cust Item ID:

Required Date: 1/26/15 Req'd Qty: 3.00

Customer:

Reference:

Approvals: Process Plan: MLJ Date: 15-01-28 Tooling: _____ Date: _____

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Run Start *NR1*

Stop *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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Draw Nbr	Revision Nbr
646.9700	C (ECN)

110	Pick Kit	0.00							DAS 41 9-89
110									
Packaging	Memo	0.00							15-2-13
Packaging									

120		0.00							DAS 41 9-89
120									
Small Fab	Memo	0.00							15-2-13
Small Fab	Assemble as per dwg and apply loctite 598 on all faying surfaces per note.								
	A/R RTV LOCTITE 598: <u>125637</u>								
	exp. date: <u>5/15</u>								

130	QC5- Inspect part completeness to step on W/O	0.00							DAS 38 9-89
130									
QC	Memo	0.00							
Quality Control									

FEB 18 2015

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS <table style="width: 100%;"> <tr> <td>Skid-tube ☐</td> <td>Crosstube ☐</td> <td>Water Jet ☐</td> <td>Engineering ☐</td> </tr> <tr> <td>Machining ☐</td> <td>Small Fab ☐</td> <td>Prod. Eng. Coord. ☐</td> <td>Quality ☐</td> </tr> <tr> <td>Thermoforming ☐</td> <td>Finishing ☐</td> <td>Rec/Store/Packaging ☐</td> <td>Other ☐</td> </tr> <tr> <td>Large Fab ☐</td> <td>Composite ☐</td> <td>Supplier ☐</td> <td></td> </tr> </table>	Skid-tube ☐	Crosstube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐	
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Large Fab ☐	Composite ☐	Supplier ☐																

Root Cause	Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Design									
Doc/Data									
Equip/Tooling									
Handling/Pre									
Material									
Operator									
Offset/Setup									
Process									
Supplier									
Training									
Transport									
Unapproved									

FAULT CATEGORY

Landing Gear ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Inspection Strip in Tube ☐ Marks/Chatter ☐ Turning Sequence ☐ Wave/Twist in Tube	General ☐ Bend ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Burrs ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Drawing ☐ Drill Holes ☐ Finish ☐ Fit/Function	☐ Folio/Program ☐ Grain ☐ Hardware ☐ Inspection Incomplete/Unqualified ☐ Instructions Incomplete/Unclear ☐ Misaligned/off center ☐ Mislabeled ☐ Misread ☐ Off-set ☐ Out of Calibration ☐ Out of Sequence	☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Positioned Wrong ☐ Power Loss/Surge ☐ Pressure/Forced ☐ Set-up ☐ Temperature/Cure ☐ Weld ☐ Wrong Stock Pulled ☐ Other
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Work Order ID 128802

Tuesday, January 27, 2015 7:48:23 AM

128802

Page 2

Item ID: 646.9702 Accept ***N900040100*** Setup Start ***NS1***
Revision ID: Stop ***NS2***
Item Name: Cutter Sub Assembly (U Channel)
Start Date: 1/26/15 Start Qty: 3.00 ***3*** Cust Item ID:
Required Date: 1/26/15 Req'd Qty: 3.00 ***3*** Customer:
Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
140	Identify as per dwg & Stock Location: <u>MF</u>	0.00				<u>6</u>			<u>DAG</u> <u>EG</u> <u>8-80</u>
140									
Packaging	Memo	0.00							
Packaging	***IDENTIFY AS PER IAW MPP-120***								
150	QC21- Final Inspection - Work Order Release	0.00							
150									
QC	Memo	0.00							
Quality Control									

FEB 18 2015

15/2/18

MS. 2-18

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

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Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS <table style="width:100%;"> <tr> <td>Skid-tube ☐</td> <td>Crosstube ☐</td> <td>Water Jet ☐</td> <td>Engineering ☐</td> </tr> <tr> <td>Machining ☐</td> <td>Small Fab ☐</td> <td>Prod. Eng. Coord. ☐</td> <td>Quality ☐</td> </tr> <tr> <td>Thermoforming ☐</td> <td>Finishing ☐</td> <td>Rec/Store/Packaging ☐</td> <td>Other ☐</td> </tr> <tr> <td>Large Fab ☐</td> <td>Composite ☐</td> <td>Supplier ☐</td> <td></td> </tr> </table>	Skid-tube ☐	Crosstube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐	
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Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐															
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Root Cause	Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Design									
Doc/Data									
Equip/Tooling									
Handling/Pre									
Material									
Operator									
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Process									
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Training									
Transport									
Unapproved									

FAULT CATEGORY

Landing Gear ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Inspection Strip in Tube ☐ Marks/Chatter ☐ Turning Sequence ☐ Wave/Twist in Tube	General ☐ Bend ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Burrs ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Drawing ☐ Drill Holes ☐ Finish ☐ Fit/Function	☐ Folio/Program ☐ Grain ☐ Hardware ☐ Inspection Incomplete/Unqualified ☐ Instructions Incomplete/Unclear ☐ Misaligned/off center ☐ Mislabeled ☐ Misread ☐ Off-set ☐ Out of Calibration ☐ Out of Sequence
		☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Positioned Wrong ☐ Power Loss/Surge
		☐ Pressure/Forced ☐ Set-up ☐ Temperature/Cure ☐ Weld ☐ Wrong Stock Pulled ☐ Other

Picklist Print

Tuesday, January 27, 2015 7:48:23 AM

Page 1

Work Order ID: 128802

128802

Parent Item: 646.9702

646.9702

Parent Item Name: Cutter Sub Assembly (U Channel)

Start Date: 1/26/15

Required Date: 1/26/15

Start Qty: 3.00

Required Qty: 3.00

Comments: IPP REV:A NEW ISSUE JFS 13/07/03 VERIFY BY: DD

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
601.1541	MS21042L08	Purchased	No			110	Each	0.0000	6	1836 (36)	DAS 41 9-89	15-2-13	
601 1541					130325				**				
Locknut(MS21042L08) (8-32 Thd) (Cad Plated) (100 Q													
601.2764	NAS1149FN832 P	Purchased	No			110	Each	0.0000	12	3872 (72)	DAS 41 9-89	15-2-13	
601 2764					130388				**				
WASHER(NAS1149FN832P)													
646.9711		Manufactured	No			110	Each	0.0000	2	(6) 8/2	DAS 41 9-89	15-2-13	
646 9711					127326 128097				**	(2)			
Blade													
646.9712		Manufactured	No			110	Each	13.0000	1	36	DAS 41 9-89	15-2-13	
646 9712									**				
Body													

Location

Loc Qty

Loc Code

MF

13

103260

2

104410

1

(109918)

10

MS27039-08-19

Purchased

No

110

Each

1,111.000

6

**

DAS
41
9-89

15-2-13

MS27039-08-19

Screw

Location

Loc Qty

Loc Code

ST273A

511

(m130505)

11

m131317

500

ST281

600

(m131264)

600

27 -> 2 scrap

DQA: _____ Date: _____



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Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS <table style="width: 100%;"> <tr> <td>Skid-tube ☐</td> <td>Crosstube ☐</td> <td>Water Jet ☐</td> <td>Engineering ☐</td> </tr> <tr> <td>Machining ☐</td> <td>Small Fab ☐</td> <td>Prod. Eng. Coord. ☐</td> <td>Quality ☐</td> </tr> <tr> <td>Thermoforming ☐</td> <td>Finishing ☐</td> <td>Rec/Store/Packaging ☐</td> <td>Other ☐</td> </tr> <tr> <td>Large Fab ☐</td> <td>Composite ☐</td> <td>Supplier ☐</td> <td></td> </tr> </table>	Skid-tube ☐	Crosstube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐	
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Root Cause	Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
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Doc/Data									
Equip/Tooling									
Handling/Pre									
Material									
Operator									
Offset/Setup									
Process									
Supplier									
Training									
Transport									
Unapproved									

FAULT CATEGORY

Landing Gear ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Inspection Strip in Tube ☐ Marks/Chatter ☐ Turning Sequence ☐ Wave/Twist in Tube	General ☐ Bend ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Burrs ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Drawing ☐ Drill Holes ☐ Finish ☐ Fit/Function	☐ Folio/Program ☐ Grain ☐ Hardware ☐ Inspection Incomplete/Unqualified ☐ Instructions Incomplete/Unclear ☐ Misaligned/off center ☐ Mislabeled ☐ Misread ☐ Off-set ☐ Out of Calibration ☐ Out of Sequence
		☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Positioned Wrong ☐ Power Loss/Surge
		☐ Pressure/Forced ☐ Set-up ☐ Temperature/Cure ☐ Weld ☐ Wrong Stock Pulled ☐ Other

APICAL

INDUSTRIES, INC.

ENGINEERING CHANGE NOTICE NO.

04559

SHEET 1 OF 1

DWG NO. 646.9700

REV: C

PREPARED BY D. MEJIA

DATE: 06/11/2014

EFFECT ON DWG
☐ INC. ☒ UNINC.

DWG TITLE: CUTTER SUB ASSY

APPROVED BY: ENGR

[Signature]

MFG

[Signature]

QC

[Signature]

EFF.

NEXT ORDER

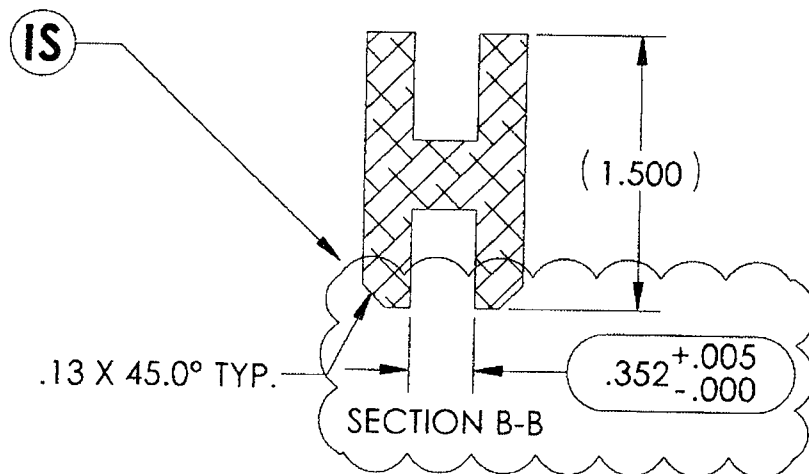
TRANSACTION CODES (TC):
 A-ADD
 R-REVISE
 C-CREATE
 D-DELETE

REASON: ADDED DIMENSION AND TOLERANCE

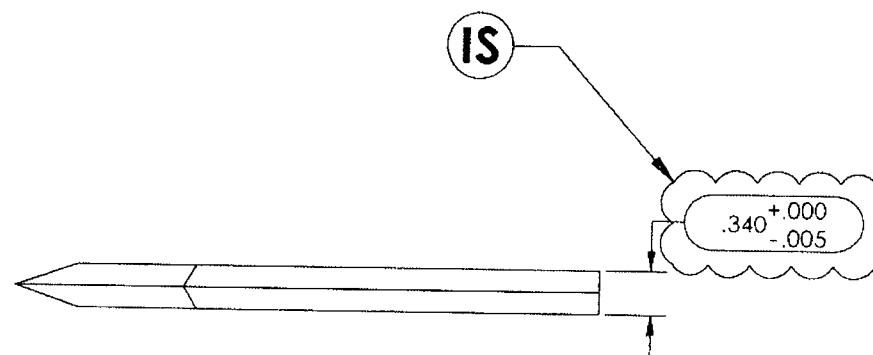
ECR:

D-14-05

SHEET 2, ZONE D7 IS:



SHEET 5, ZONE B5 IS:



128802 MJS
 15-01-28

DOCUMENTS EFFECTED:

☐ MDL
 ☐ INSTALL INSTRUCTIONS
 ☐ ICA
 ☐ FMS
 ☐ BOM

CHANGE CATEGORY

☐ MAJOR
☒ MINOR

DER REVIEW REQUIRED

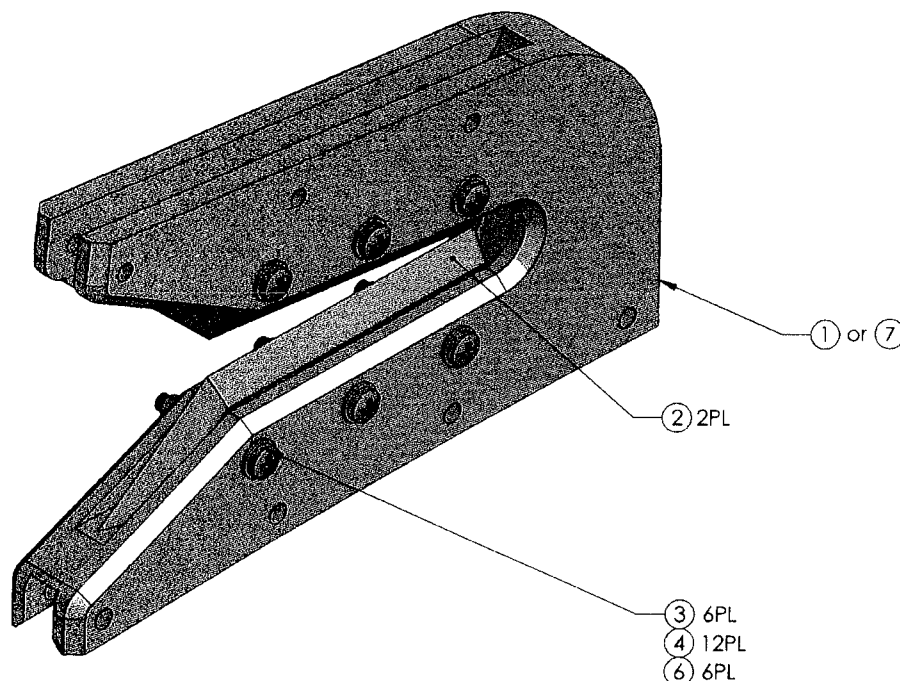
☐ YES
☒ NO

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REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED
LAST PRODUCTION REVISION: PR2			
INITIAL RELEASE		02/27/09	P. BRAVO
A	INCORPORATED ECN 02764 02836 02912	06/04/13	P. BRAVO
B	INCORPORATED ECN 02967	07/02/13	P. BRAVO
C	INCORPORATED ECN 04337	10/05/13	P. BRAVO

NOTES:

- 1 MATERIAL: ALUMINUM 7075-T651 PER AMS-QQ-A-250/12
- 2 FINISH: HARD ANODIZE IAW MIL-A-8625 TYPE III, CLASS 2, COLOR BLACK;
PRETREAT PRC-DESOTO PR-148 ADHESION PROMOTER;
PRIME IAW MIL-P-23377J TYPE I CLASS N; 1-2 MIL MAX
- 3 MATERIAL: AISI A2 TOOL STEEL
CONDITION: ANNEALED
POST PROCESS: HEAT TREAT TO 58-62 Rc ROCKWELL HARDNESS
- 4 FINISH: PRIME IAW MIL-P-23377J TYPE I CLASS N; 1-2 MIL MAX
- 5 DEBURR AND BREAK ALL SHARP EDGES EXCEPT WHERE OTHERWISE NOTED
- 6 IDENTIFY IAW MPP-120
- 7 APPLY F/N 5 AS REQUIRED TO ALL FAYING SURFACES OF F/N 2 UPON ASSEMBLY
- 8 CUTTING EDGE INTENDED TO BE SHARP, DO NOT BREAK SHARP EDGE
- 9 ALL DIMENSIONS NOT SPECIFIED ARE CONTROLLED BY 646.9710.



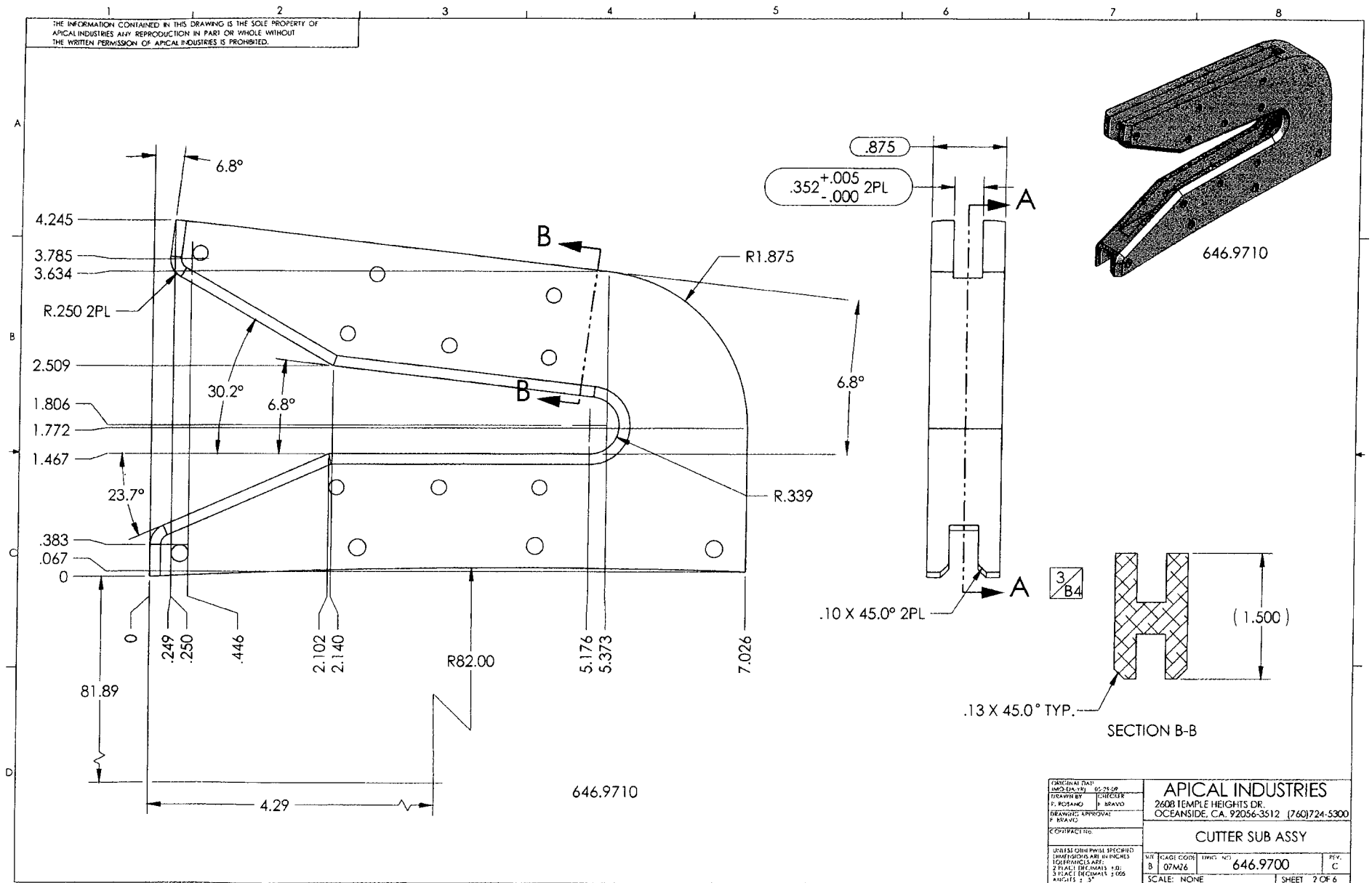
646.9701
or
646.9702

UNINCORPORATED ECN(s)

0455A

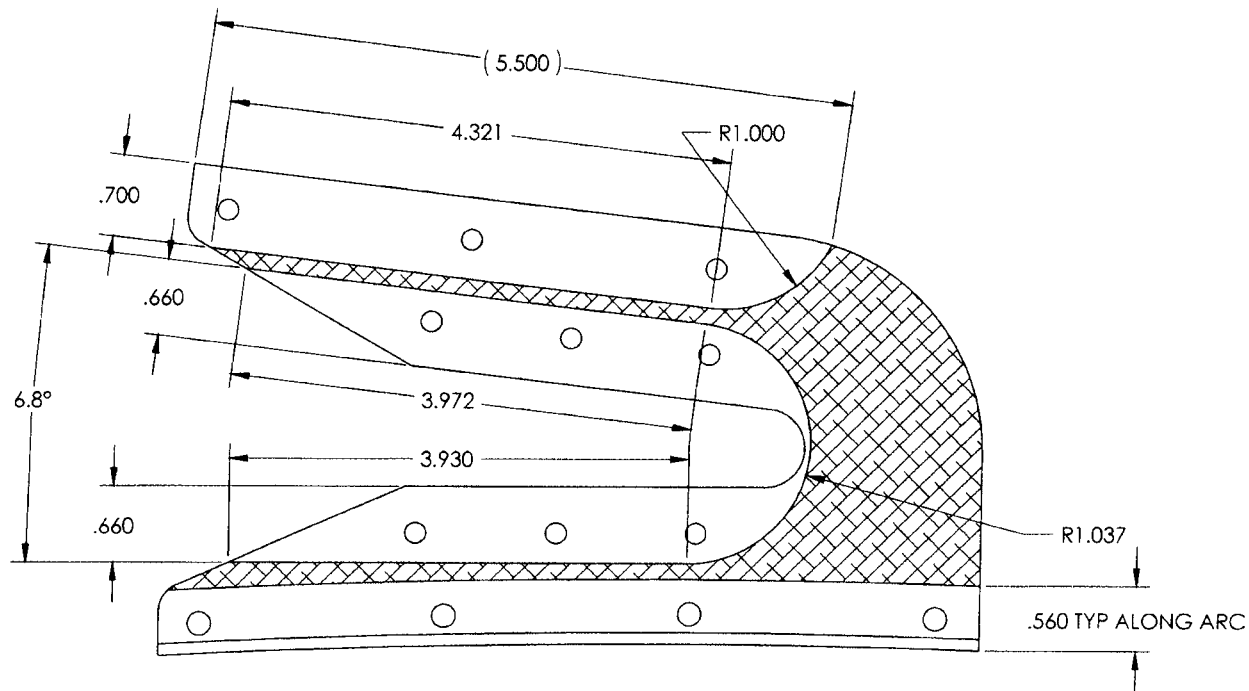
1	7	646.9712	BODY (U CHANNEL)	△	△
6	6	601.1541	LOCKNUT	MS210421-08	
A/R	A/R	5	RTV, LOCTITE 598		
12	12	4	WASHER	11A511-49 INB37P	
6	6	3	SCREW	MS27039-08-19	
2	2	2	BLADE	△	△
	1	1	BODY	△	△
			CUTTER SUB ASSY (U CHANNEL)		
			646.9702		
			646.9701		
QTY	QTY	FIND #	PART #	DESCRIPTION	MAT'L SPEC.
PARTS LIST					
NEXT ASSY (S)			APICAL INDUSTRIES		
646.9600			2608 TEMPLE HEIGHTS DR. OCEANSIDE, CA. 92056-3512 (760)724-5300		
			CUTTER SUB ASSY		
			DATE: 07/04/16	DWG. NO: 646.9700	REV. C
			SCALE: NONE	SHEET 1 OF 8	

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ORIGINAL DATE: 05-21-08 DRAWN BY: F. ROSANO CHECKED BY: P. BRAVO DESIGNED BY: P. BRAVO APPROVED BY: P. BRAVO		APICAL INDUSTRIES 2608 TEMPLE HEIGHTS DR. OCEANSIDE, CA. 92056-3512 (760)724-5300	
CONTRACT NO.: UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES TOLERANCES ARE: 2 PLACE DECIMALS ± .01 3 PLACE DECIMALS ± .005 ANGLES ± .5°		SHEET CODE: B SHEET NO: 07A026	REV: C 646.9700
SCALE: NONE		SHEET 2 OF 6	

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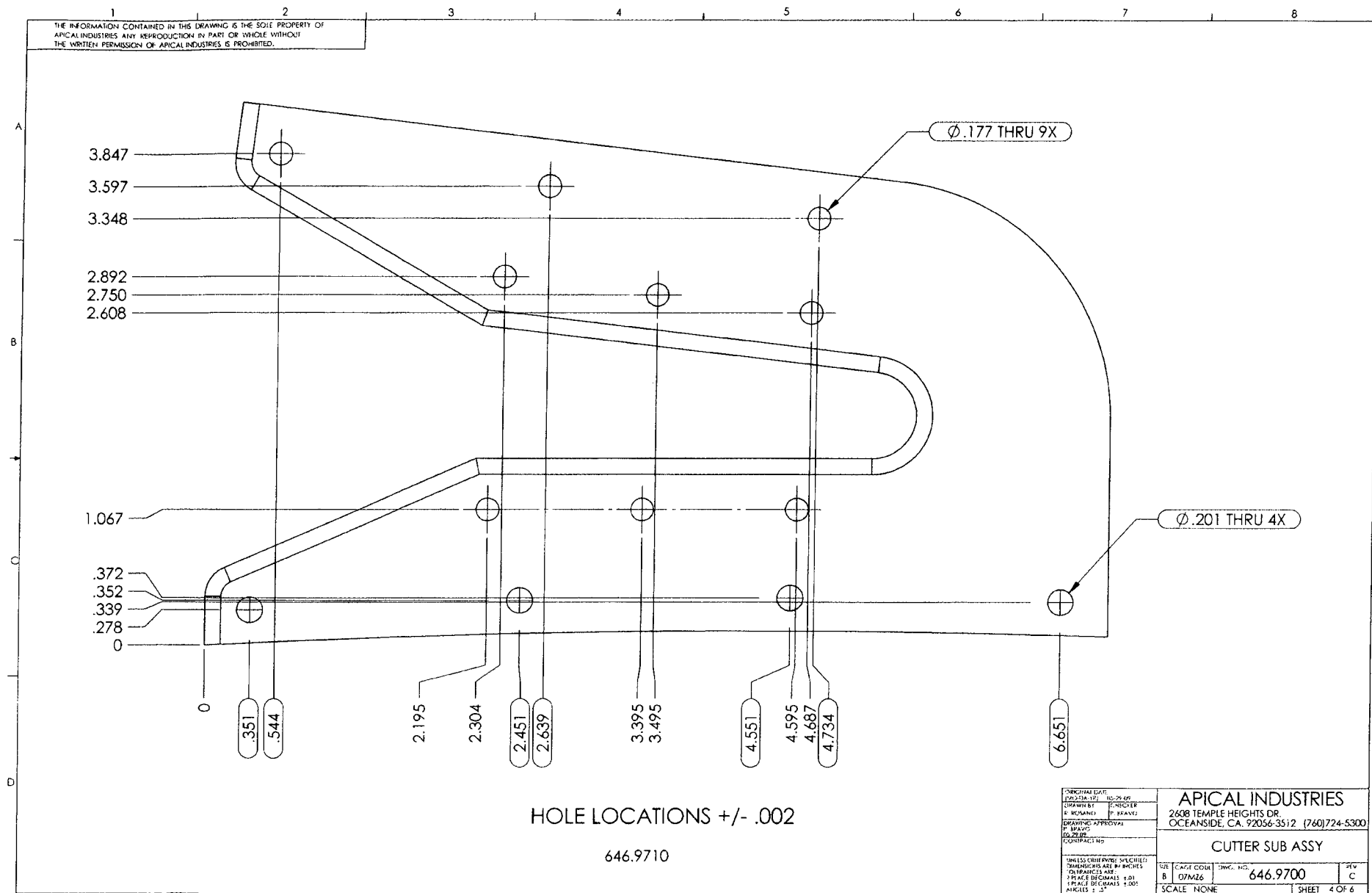


SECTION A-A $\frac{2}{C6}$

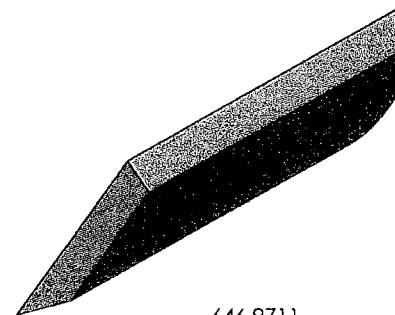
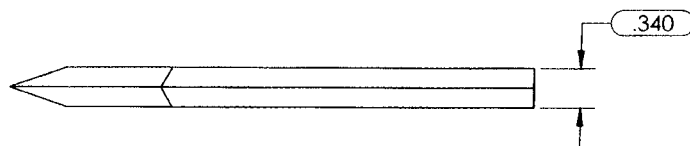
646.9710

ORIGINAL DATE BY: DA 391 CHECKED BY: P. BRAYNO DRAWING APPROVAL P. BRAYNO DATE: 01/26/00 CONTRACT NO.		APICAL INDUSTRIES 2608 TEMPLE HEIGHTS DR. OCEANSIDE, CA. 92056-3512 (760)724-5300	
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: 2 PLACE DECIMALS ± .01 3 PLACE DECIMALS ± .005 ANGLES ± .5°		SHEET: CAGE CODE B 07M16	REV: 646.9700 C
		SCALE: NONE	SHEET: 3 OF 6

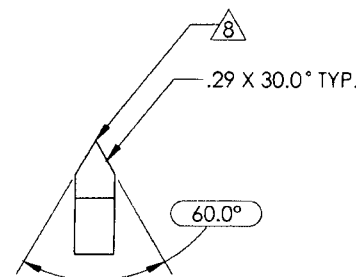
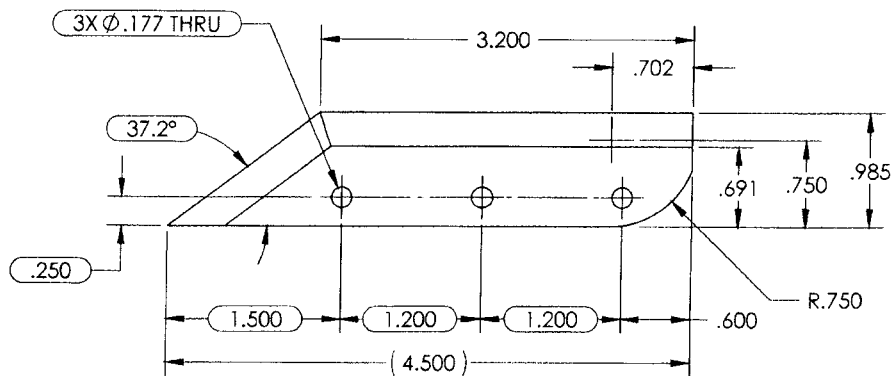
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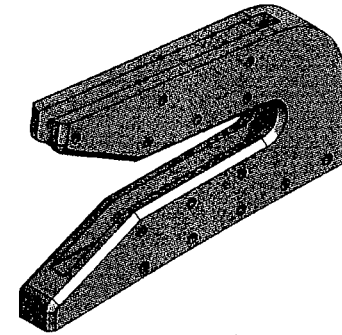
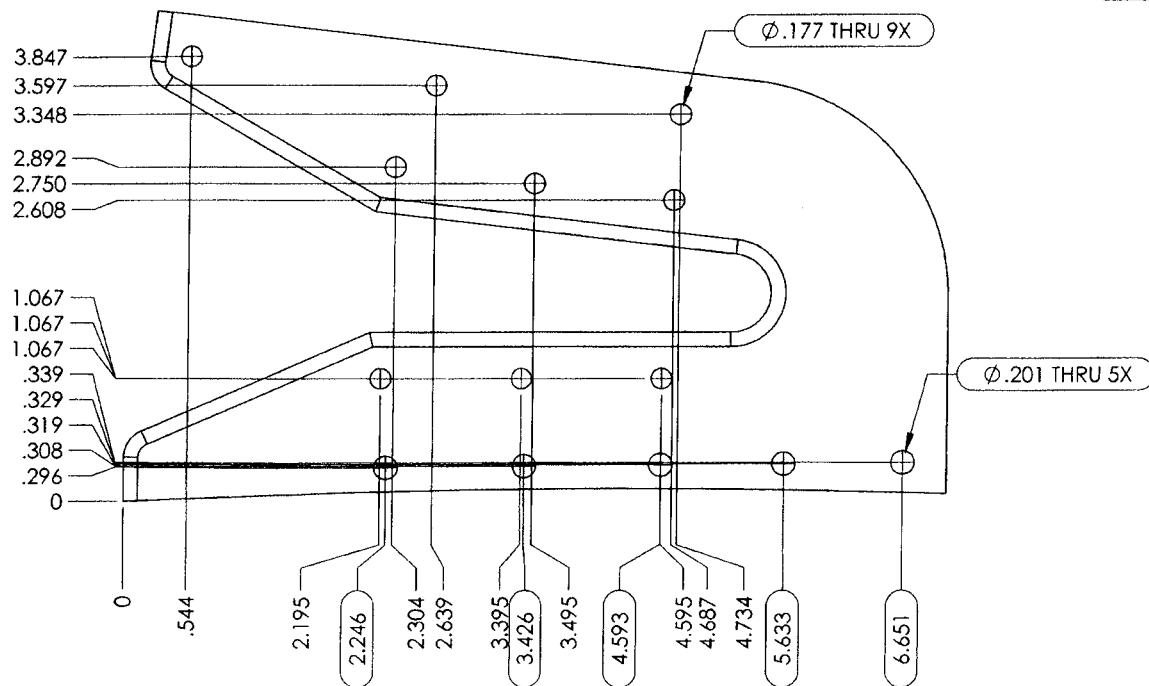
646.9711



646.9711

ORIGINAL DATE (MM-DD-YY)		DS-2008	
DESIGNED BY F. ROSSANO		CHECKED BY P. BRANO	
DRAWING APPROVAL P. BRANO		DATE 05/20/08	
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES DECIMALS ARE: 3 PLACE DECIMALS ± .001 ANGLES ± .5°		DATE B	07/20/08
APICAL INDUSTRIES 2608 TEMPLE HEIGHTS DR. OCEANSIDE, CA. 92056-3512 (760) 724-5300		DWG. NO. 646.9700	REV. C
CUTTER SUB ASSY		SCALE NONE	SHEET 5 OF 6

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646.9712 $\triangle 9$

646.9712

STANDARD DATE: 05-29-09 DESIGNED BY: E. ROSARIO DRAWING APPROVAL: P. BRANTON CHECKED BY: P. BRANTON		APICAL INDUSTRIES 2608 TEMPLE HEIGHTS DR. OCEANSIDE, CA. 92056-3512 (760)724-5300	
UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES TOLERANCES ARE: 1. PLACES DECIMALS: .005 2. PLACES DECIMALS: .010 3. PLACES DECIMALS: .020 4. PLACES DECIMALS: .050		SHEET: 07/02/06 SCALE: NONE	REV: C SHEET: 6 OF 6
CUTTER SUB ASSY		PART: 646.9700 DATE: 07/02/06	REV: C